A new subspecies of *Hybanthus floribundus* (Violaceae) from the Eastern Goldfields of Western Australia

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Abstract

Bennett, E.M. A new subspecies of *Hybanthus floribundus* (Violaceae) from the Eastern Goldfields of Western Australia. *Nuytsia* 13 (1): 3–6 (1999). A new subspecies, *Hybanthus floribundus* subsp. *chloroxanthus* E.M. Bennett, is described. A key is provided to the subspecies of *Hybanthus floribundus*.

Introduction

Hybanthus floribundus Jacq. (Violaceae) is a widespread species throughout southern Western Australia, southern South Australia, Victoria and southern New South Wales. Bennett (1972) undertook a revision of the genus within Australia. In this work two subspecies in addition to the typical subspecies were recognized, subsp. *curvifolius* E.M. Bennett from the Kalgoorlie area and subsp. *adpressus* E.M. Bennett from the Ravensthorpe area.

When undertaking a field trip to an area east of Leonora, a further subspecies of *Hybanthus floribundus* was observed. In the field it differs from *H. floribundus* subsp. *curvifolius* in being more compact, with the leaves broader, yellow-green and overlapping the leaves above. *Hybanthus floribundus* subsp. *curvifolius* is relatively common further south between Kalgoorlie and Norseman but is also recorded in scattered locations, predominantly along creek banks, north to Leonora.

A total of 15 populations of the new subspecies were examined in the field and later back at the office. Voucher specimens taken from about half of these populations have been lodged at PERTH.

Taxonomy

Key to the subspecies of *Hybanthus floribundus*

1. Leaves antrorse to appressed; sepals petaloid, pale blue or white
   2. Apices of sepals recurved
      3. Leaves narrow, conduplicate, without pustules. (Ravensthorpe area) ..... subsp. **adpressus**
      3. Leaves broad, flat, with distinct pustules on both surfaces. (Widespread) ..... subsp. **floribundus**

2. Apices of sepals appressed to petals. (Leonora to Laverton) ..... subsp. **chloroxanthus**

1. Leaves widely spreading to patent; sepals not petaloid, blue or pale blue or green

4. Leaves conduplicate, curved. (Leonora to Norseman) ..... subsp. **curvifolius**

4. Leaves flat, not curved. (Widespread) ..... subsp. **floribundus**

Hybanthus floribundus subsp. **chloroxanthus** E.M. Bennett, *subsp. nov.*

Folia ovata, chloroxantha, 10–12 mm longa, 2–3 mm lata, basibus ad caulem ± adpressis. Flores in dichasiis vel racemis dispositi, albi. Petalum anticum manifeste calcaratum, 7 mm longum, album; petala lateralia alba venis atroviolaceis.

Typus: loose colluvium, lateritic boulders and rubble over serpentinite, 2 km east of Hage Bore, Yundamindra Station, 6785131N, 420413E, 1 August 1997, *E.M. Bennett & D. Bright* Euc1810 (*holo:* PERTH 05395771; *iso:* CANB, K, MEL, PERTH 05395798).

Leaves conduplicate, ovate 10–12 mm long, 2–3 mm wide, greenish-yellow, leaf bases appressed to the stem. Flowers in dichasia or raceme, white. Anterior petal 7 mm long, white; inner petals white occasionally with blue-mauve veining. (Figure 1)

Other specimens examined. WESTERN AUSTRALIA: Yundamindra Station, 6784791N, 420617E, Oct. 1997, *E.M. Bennett & C. Harding* Hf002 (PERTH); Yundamindra Station, 6785131N, 420413E, Oct. 1997, *E.M. Bennett & C. Harding* Hf003 (PERTH); Yundramindra Station, 6784663N, 421194E, Oct. 1997, *E.M. Bennett & C. Harding* (PERTH); Glenorn Station, 6795507N, 481324E, Oct. 1997, *E.M. Bennett & C. Harding* Hf012 (PERTH); Glenorn Station, 6796650N, 381901E, Oct. 1997, *E.M. Bennett & C. Harding* Hf015 (PERTH); Minara Station, 6797350N, 382300E, Oct.1997, *E.M. Bennett & C. Harding* Hf007 (PERTH).

Distribution. East of Leonora and west of Laverton typically associated with *Hemigenia exilis*. However, other populations of *Hemigenia exilis* have been recorded north of Leonora so further surveys in these areas could possibly extend the known distribution of *Hybanthus floribundus* subsp. *chloroxanthus*.

Habitat. This subspecies appears to be restricted to consolidated lateritic caprock where the underlying bedrock is ultramafic. The soil surface is characterized by dark red-brown, iron oxide rich, consolidated laterites and ferricretes distribution. The subspecies also occurs on drainage lines where the top surface has eroded away exposing the ultramafic rock.

It occurs in Very Open Low Woodland of *Acacia* species, the dominant species being *Acacia aneura, Acacia ramulosa* and *Acacia tetragonophylla* with *Eremophila oppositifolia* and *Ptilotus obovatus*.

Phenology. Flowering recorded August to September and at some sites in October. Seeds mature from October to November.

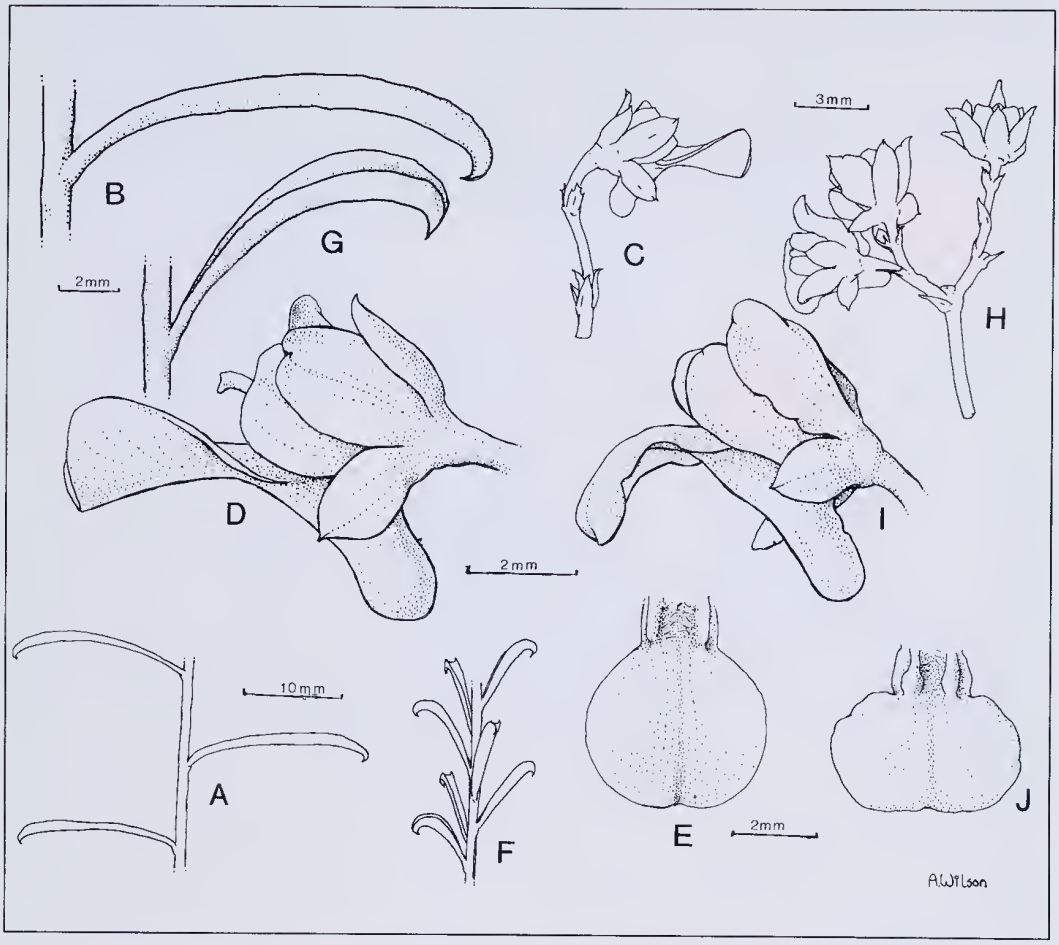

Figure 1. A–E. *Hybanthus floribundus* subsp. *curvifolius*. A – leaves spreading away from stem, B – leaf, C - unbranched inflorescence, D – flower, E – anterior petal; F–J. *Hybanthus floribundus* subsp. *chloroxanthus*. F – leaves antrorse to the stem, G – leaf, H – branched inflorescence, I – flower, J – anterior petal. Drawn from *E.M. Bennett & D. Bright* Euc. 3009 (A–E) and *E.M. Bennett & D. Bright* Euc. 1810 (F–J).

Conservation status. CALM Conservation Codes for Western Australian Flora: Priority Three.

Etymology. The epithet *chloroxanthus* meaning yellowish-green, is made up of the Greek words, *chloro* – green and *xanthos* – yellow, and has reference to the yellowish green colour of the leaves.

Affinities. This subspecies is closest to *Hybanthus floribundus* subsp. *curvifolius*, a subspecies which appears to be restricted to the Goldfields Region, having been recorded from Leonora south to Norseman. In the Leonora region this subspecies is recorded from along creek banks, but not associated with ultramafic soils. The differences between the two subspecies are given in Table 1.

Table 1. Comparison between *Hybanthus floribundus* subsp. *curvifolius* and *Hybanthus floribundus* subsp. *chloroxanthus*

	subsp. **curvifolius**	subsp. **chloroxanthus**
leaf orientation and density	± patent, no overlap with leaves above	± antrorse, ± overlap leaves above
leaf length (mm)	16–20	10–12
leaf width (mm)	1.5–2	2–3
leaf colour	green	greenish-yellow
inflorescence	3 or 4 flowers, racemose	>5 flowers, dichasial or occasionally racemose
flower colour	blue or pale blue with distinct blue lines	white, occasionally sepals with blue lines
length of anterior petal (mm)	5–6	7–8
upper surface of anterior petal	flat to v-shaped	margin ± recurved
soil	consolidated laterite and ferricrete	creek banks, usually rocky, never sandy
distribution	Leonora to Norseman	Leonora to Laverton

Discussion. The two subspecies appear to be similar but are readily distinguished in the field. On Yundamindra Station a few plants of *Hybanthus floribundus* subsp. *curvifolius* were observed along broad creeks where they were associated with *Acacia acuminata* subsp. *burkittii*. From the collections made so far it would appear that *Hybanthus floribundus* subsp. *chloroxanthus* is commonly associated with, or adjacent to, populations of *Hemigenia exilis*. Additional surveys should be undertaken to determine the full distribution of this new subspecies and to reassess its conservation status.

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